

### Remarks

The Office Action dated August 10, 2006 has been carefully considered. Favorable reconsideration of the application is hereby requested.

Claims 1, 3-6, 8-11, 13-15, and 17-19 have been amended to include subject matter of the dependent claims and/or specification. No new matter has been added to the amended claims. Claims 7, 12, and 16 have been canceled.

### *Claim Objections*

Claims 1 and 10 are objected to because of the following informalities: The description "aqueous coating" appears to be incorrect. Furthermore, there is insufficient antecedent basis for the term "aqueous coating" in line 4 of claim 1. The term aqueous coating has been amended. In view of the amendments to claims 1 and 10, it is submitted that this objection to claims 1 and 10 is moot and should be withdrawn.

### *Claim Rejections - 35 USC § 102 / 35 USC § 103*

Claims 1, 4-6, 8-11, 13-15, and 17 are rejected under 35 USC 102(b) as anticipated by or, in the alternative, under 35 USC 103(a) as obvious over Ganslaw et al. (U.S. 4,043,952). Claims 3 and 12 are rejected under 35 USC 103(a) as being unpatentable over Ganslaw et al.

Ganslaw et al. does not disclose the present invention as set forth in the claims of this response. The present claims require the coating be free of organic solvent. The dispersing medium for the coating in Ganslaw et al. is described in column 3, lines 36-41 as "*generally selected from the group consisting of aliphatic and aromatic esters, ketones, alkyl ethers, alkanes containing 5-18 carbon atoms, aromatics, and blends of water-immiscible solvents with water.*" The use of organic solvents is further evidenced in Ganslaw et al. beginning in column 9, at line 45 to column 10 line 2. In view of this, this rejection over Ganslaw et al. is moot and should be removed.

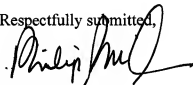
Claims 1 and 4-6, 8-11, 13-15, and 17-19 are rejected under 35 USC 102(b) as anticipated by or, in the alternative, under 35 USC 103(a) as obvious over Mertens et al. (WO 00/53664; equivalent document U.S. 6,620,889 relied upon for translation). Claims 1 and 4-6,

8-11, 13-15, and 17-19 are rejected under 35 USC 102(b) as anticipated by or, in the alternative, under 35 USC 103(a) as obvious over Gartner et al. (U.S. 6,323,252). Claims 1, 4-6, and 8-9 are rejected under 35 USC 102(e) as anticipated by or, in the alternative, under 35 USC 103(a) as obvious over Cook et al.

With regard to Mertens et al., Gartner et al., and Cook et al., attached as Appendix A is an affidavit by Dr. Iqbal Ahmed, an inventor in the present application, in which Dr. Ahmed has reproduced examples in each of these 3 references. The Affidavit shows that Mertens et al., Gartner et al., and Cook et al., do not have the properties of the present invention as set forth in the claims. In view of the foregoing remarks, Mertens et al., Gartner et al., and Cook et al. do not disclose the present invention. Claim 1 is patentable over Mertens et al., Gartner et al., and Cook et al. and dependent Claims 3-9 are patentable over Mertens et al., Gartner et al., and Cook et al. at least for the reasons regarding the independent Claim 1.

In view of the foregoing, allowance of Claims 1, 4-6, 8-11, 13-15, and 17-19 is hereby requested. If the Examiner has any further questions, Applicants' Attorney would welcome a telephone call to resolve these questions.

Respectfully submitted,



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## APPENDIX A

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

In re Application of: Iqbal AHMED et al.

Serial No.: 10/706,569

Filing Date: November 12, 2003

Confirmation No.: 6659

Examiner: Rip A. Lee

Art Unit: 1713

**For: SUPERABSORBENT POLYMER HAVING DELAYED  
FREE WATER ABSORPTION**

Mail Stop Amendment  
Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

**AFFIDAVIT UNDER 37 C.F.R. 1.132**

I am Iqbal Ahmed. I hold a BS with Honors in Chemistry from University of Chittagong, Bangladesh; a MS in Applied Chemistry from University of Dhaka, Bangladesh; and a PhD from North East London Polytechnic, London, England, and I specialized in the area of Polymer Chemistry. Upon completion of my PhD in December 1981, I immigrated to the U.S.A. in June 1982. I started working in the field of water-soluble polymers as a Post Doctoral Research Associate in the Chemistry Department, University of Lowell, Lowell, MA. I joined Phillips Petroleum Company located in Bartlesville, OK as a Research Associate Chemist and started working in the field of water-soluble/hydrogel/superabsorbent polymers in 1987 and continued working in this field to the present. Since June 1, 1999, I have been employed as a Senior Research Scientist by Stockhausen Inc. located in Greensboro, NC.

I have reviewed the following patents and prepared superabsorbent polymers substantially similar to the procedure set forth in the examples as indicated below.

US Patent 6,620,889 Mertens et al. – Example 1;

US Patent 6,323,252 Gartner et al. - Example 7; and

**Superabsorbent Polymer A was prepared according to the following procedure, which was similar to Example 1 of Mertens et al.**

SXM9300, which is 70 mole-% neutralized as sodium salt, was screened to a powder having a particle size of about 150-850 $\mu$  (powder A) after drying and milling. 100 g of powder A was mixed with a solution of 1 g of 1,3-dioxolan-2-one, 3 g of water and 0.5 g of aluminum sulfate 18-hydrate with vigorous stirring and subsequently heated for 30 minutes in an oven heated to 180°C.

The delayed free water absorption for the Superabsorbent Polymer A based on Example 1 of Mertens et al. was found to be 9.59g/g in 15 seconds.

**Superabsorbent Polymer B was prepared according to the following procedure, which was similar to Example 7 of Gartner et al.**

Fifty grams of superabsorbent polymer resin SXM9300 having moisture content (as determined by weight loss at 105°C for 3 hours) of 0.1 to 2.5 percent was taken into a mixing bowl of a Kitchen Aid Free Standing Mixer at ambient conditions. An aqueous solution of 0.05 gram  $AlCl_3 \cdot 6H_2O$  in 2.5 gram water was made and sprayed onto SXM9300 by an airbrush while the resin in the mixing bowl was stirred with mixer whisk at the mixer highest speed. This resulted in the same amount of additives of 5% water and 1000ppm  $AlCl_3 \cdot 6H_2O$  in the SXM9300 polymer as those were present in the Example 7 of Gartner et al.

The delayed free water absorption for the Superabsorbent Polymer B based on Example 7 of Gartner et al. was found to be 11.6g/g in 15 seconds.

**Superabsorbent Polymers C1 and C2 were prepared according to the following procedure, which was similar to Examples 15 and 16 of Cook et al.**

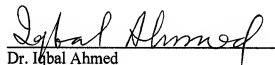
For C1, Example 15 of Cook et al. was repeated with FAVOR SXM 9100 SAP that was pretreated with aqueous aluminum sulfate octadecahydrate at a ratio of 3.7 parts of dry aluminum sulfate octadecahydrate to 100 parts of SAP, dried at 125°C for 3 hours, crushed, and sieved to the same particle size as the untreated SAP.

The delayed free water absorption for the Superabsorbent Polymers C1 based on Example 15 of Cook et al. were found to be 4.04g/g in 15 seconds.

For C2, Example 16 of Cook et al. was repeated with FAVOR SXM 9100 SAP that was pretreated with a methanol suspension of aluminum sulfate octadecahydrate at a ratio of 3.7 parts of dry aluminum sulfate octadecahydrate to 100 parts of SAP, air-dried in an exhaust hood to remove visible liquid, and oven dried at 40°C for two hours.

The delayed free water absorption for the Superabsorbent Polymers C2 based on Example 16 of Cook et al. were found to be 9.03g/g in 15 seconds.

I declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements are made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under 18 U.S.C. 1001; and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.

  
Dr. Iqbal Ahmed

Date: Dec. 11, 2026